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## New Plants from Western North America.—II.

By A. A. HELLER.

### THELYPODIUM SAGITTATUM (Nutt.).

*Streptanthus sagittatus* Nutt. Journ. Acad. Phila. 7: 12. 1834.

*Thelypodium Nuttallii* Wats. Bot. King Exped. 26. 1871.

Dr. Watson recognized the fact that the specific name *sagittatum* could not be used for two different species in the genus *Thelypodium*, but unfortunately he gave a new specific name to the older plant, and kept up the name of *sagittatum* for the later published *Pachypodium sagittatum* Nutt. On page 26 of the King Expedition Report, he says the plant was "Collected by Nuttall in Southern Idaho," a statement which does not seem to be borne out by the fact, for the paper in which this species is described, is entitled "A Catalogue of a Collection of Plants made chiefly in the Valleys of the Rocky Mountains or Northern Andes, towards the sources of the Columbia River, by Mr. Nathaniel B. Wyeth, and described by T. Nuttall."

### THELYPODIUM TORULOSUM.

*Pachypodium sagittatum* Nutt.; T. & G. Fl. N. A. 1: 97. 1838.

*Thelypodium sagittatum* Endl.; Walp. Rep. Bot. 1: 172. 1842.

As stated above, this is the species to which Watson should have applied a new specific name, instead of giving it to the earlier published species. The original locality of this species is "Plains on the west side of the Rocky Mountains." I have given it the specific name *torulosum*, in reference to the torulose pod.

### LUPINUS HELLERAE.

Perennial; stems several, growing in clusters from a stout rootstalk, erect, 3–3.5 cm. high, sericeous, as are also the petioles and both sides of the leaflets, or the hairs on the lower part of the stem and petioles somewhat spreading; leaves numerous, basal, or the flowering stem bearing one or two; petioles 10 to 15 cm. long, their bases dilated; leaflets seven to nine in number, usually eight, oblong-lanceolate, with tapering base, 4–4.5 cm. long, 5 mm. wide when mature, the apex acutish and mucronate, mid-vein yellowish, prominent beneath; stipules narrowly

linear-lanceolate, about 7 mm. long; flower stalks scapose, the flower bearing part 15 cm. long; flowers rather large, deep indigo blue, 1 cm. in width, and nearly 1.5 cm. long, verticillate, the internodes usually short; bracts narrowly lanceolate, barely half the length of the calyx; calyx sericeous, not spurred, not quite half the length of the corolla, unequally cleft, the upper lobe slightly shorter, and again two-cleft, its lobes obliquely lanceolate; the lower lobe lanceolate, entire, strongly concave; banner glabrous, bearing a light spot on the inner face, keel bearded on the inner side near the apex.

The type is no. 3080, collected opposite the Central Ferry, four miles east of Lewiston, Nez Perces county, Idaho, May 18, 1896, altitude 800 feet. The specimens were obtained in low, sandy and gravelly ground, on the banks of the Clearwater river, formerly known as the "Kooskoosky," where it grew in large patches, the hundreds of plants, with their bright blue flowers, presenting a very attractive appearance. It is with pleasure that I dedicate this beautiful species to my wife, Mrs. E. Gertrude Heller, who assisted in gathering the specimens.

This species was collected by Sandberg, MacDougal and Heller in 1892, at a point four miles further up the river, where it grew on an island, in sand and gravel near the water's edge. It is their no. 120, determined as "*Lupinus lepidus* Dougl." by Mr. Holzinger, in Cont. U. S. Nat. Herb. 3:219. An albino form was also collected at the same time, growing in company with plants of ordinary color. Mr. Holzinger also gives the wrong habitat, for he says, "On Peter creek near Upper Ferry, Clearwater river, above Lewiston." It may be stated that the habitat which he gives to no. 120 belongs to no. 99, and the "island in Clearwater river" under no. 99, belongs to no. 120, but not the "grassy hillsides," for the islands are almost level. Also, no. 99 is not "*Lupinus Burkei* Wats." as determined by him, but is *Lupinus Wyethii*. In 1892 it was collected by the writer on hillsides along Peter creek, and again in 1896 in similar situations along the Clearwater river.

*Lupinus Hellerae* is, perhaps, common along the Clearwater, but I have seen it only at the two places mentioned, and nothing like it seems to be in any of the herbaria, so far as I know. It is related to *L. lepidus* in a general way, but very distinct, as is appa-

rent by referring to the original description and the accompanying plate in the Botanical Register.

## HYDROPHYLLUM ALBIFRONS.

*Hydrophyllum Virginianum* Holzinger, Cont. U. S. Nat. Herb. 3:241. 1895. Not L.

Perennial ; stem moderately stout, 4–6 cm. high, more or less hirsute ; leaves all on stout petioles, those of the root leaves dilated at the base, slightly clasping, those of the stem confluent with it for a considerable distance, the blade 10–16 cm. long, 10–12 cm. wide ; leaflets in three or four subopposite pairs, exclusive of the three-lobed terminal segment, more or less decurrent, ovate-lanceolate in outline, acute, usually two-lobed, and coarsely serrate, light green when fresh, hirsute above with appressed hairs, clothed beneath with soft white short hairs ; inflorescence equalling or slightly exceeding the subtending leaf ; peduncles stout, grooved, densely woolly, cymes compact : calyx half the length of the petals, very pubescent, parted almost to the base, the lobes linear-lanceolate, acute, heavily fringed with long white wavy hairs : corolla cream-colored, or faintly tinged with purple, about 1 cm. long, puberulent, especially on the lower half, the lobes broadly oblong, obtuse, notched.

The type is no. 3269, collected June 20, 1896, in the woods at the head of Lake Waha, Nez Perces county, Idaho, altitude 2000 feet. Several dozen plants were growing in an open, grassy place near a stream. The white appearance of the leaves is somewhat lost in dried specimens, but is conspicuous in the living plant.

No. 112 of Sandberg, MacDougal and Heller, wrongly referred to *H. Virginianum*, by Mr. Holzinger, belongs to this species. These specimens were collected by the writer at two stations, in the Clearwater valley, once on the banks of Peter creek, under a clump of willows, and again in similar situations along the Lapwai.

To this species are also referred two specimens from the State of Washington. One was collected at Pullman, May 31, 1893, no. 1697, by Prof. C. V. Piper, and labeled "*Hydrophyllum occidentale*." The other was collected by Sandberg and Leiberg at Stevens Pass, August, 1893, labeled "*Hydrophyllum Virginianum*." The leaflets in these specimens from Washington are longer and sharper than are those of the type specimen.

## CASTILLEJA LUTEA.

Perennial, clothed throughout with lanate pubescence; stems clustered, 20–30 cm. high: basal and lower stem leaves lanceolate, narrow, those of the upper part of the stem oblong, or somewhat obovate, the upper half, or third, usually three-lobed, all of the lobes lanceolate, but the lateral ones narrower and acuminate, the middle one usually again three-lobed, with its lateral segments narrower; floral bracts pale yellow, or the tips somewhat purple tinged, more unequally toothed or lobed than the foliage leaves, the terminal segment broad and rounded, the others narrowly lanceolate; calyx oblong, about 3 cm. long, equally cleft before and behind, the lobes about equalling the tube, slightly dilated and notched at the blunt apices; corolla barely exerted, the galea equalling or a trifle shorter than the tube, faintly tinged with purple, or yellow.

The type is no. 3267, collected May 20, 1896, on grassy hill-sides near the mouth of the Potlatch river, Nez Perces county, altitude 1200 feet. It is also abundant on the plateau below Lake Waha. It may be looked for in herbaria under the mixture called "*Castilleja parviflora* Bong.," although I have never seen any other specimens. It is found growing with this other species, but can be distinguished from it at a glance. It is a smaller plant than the so-called *parviflora*, and has an entirely different kind of pubescence.

Our specimens somewhat resemble the type of *Euchroma Bradburii* Nutt., preserved in the herbarium of the Academy of Natural Sciences, Philadelphia, but is apparently not the same, so far as can be ascertained from that poorly prepared and fragmentary specimen.

*C. lutea* may possibly be the same as *C. desertorum* Geyer, published by Hooker as a synonym of *C. hispida*, in Journ. of Bot. and Kew Garden Misc. 5: 258. 1853, where the following is given: "Prairie plateaus of the Nez Perces Mountains. \* \* \* Except in color, I do not see how these specimens of Mr. Geyer's *C. desertorum* (no. 511) differ from what I consider to be a mere form of *C. hispida* (no. 377); but when living, characters probably manifest themselves."

As he gives no description whatever, and does not even mention the color which is said to be the sole difference, the name is a

*nomen nudum* and we have no other clue than that of locality. The species apparently has its home on this plateau below Waha, for it is very abundant there.

In the second line from the bottom of page 296 of Vol. 2, Part I., of the Synoptical Flora, occurs this statement: "*E. angustifolia* Nutt., l. c., a low and small-flowered subalpine form; same as *C. desertorum* Geyer." If Dr. Gray actually saw this plant of Geyer's and also Nuttall's there is no ground whatever for supposing that our plant may be identical with Geyer's, for I have seen the type of Nuttall's *Euchroma angustifolia*, and it is very distinct from ours, as is also indicated by his original description in Journ. Acad. Phila. 7: 46. 1834.

#### VALERIANA OCCIDENTALIS.

Rootstalk moderately stout, ascending, somewhat branched; roots numerous; stems rather stout, 6-8 dm. high, puberulent, especially below; basal leaves ordinarily about 25 cm. long, elliptical-lanceolate, bluntly pointed, the petioles occupying more than half of the total length; stem leaves on short clasping petioles, which are ciliate on the lowest pair, ovate-lanceolate in outline, the lower ones 10-12 cm. long, and composed of about four pairs of leaflets, these lanceolate and acute, the lowest pair the smallest, while the single terminal leaflet is several times larger than those of the pair next beneath it; inflorescence much elongated, composed of from three to five pairs of opposite branches, the lowest internode about 12 cm. long, the others growing successively shorter; the lowest flower branches subtended by a bract-like leaf, which is parted into three linear-lanceolate lobes, the other flower stalks provided with narrow linear bracts; flower branches approximately as long as the internodes, surmounted by a three-branched cyme, each branch of which is again subdivided into two or three branches, the pedicels slightly pubescent or puberulent; calyx glabrous, the lobes linear-lanceolate, prominently one-nerved; corolla creamy white, short, with barely half its length exerted from the calyx, the tube only half the length of the throat and limb; stigma entire.

The type is no. 2353, collected July 2, 1896, near the western end of the Craig Mountain plateau, above Lake Waha, Nez Perces county, Idaho, altitude 3500 feet. The plants were growing in rich ground in an open place in the woods.

*Valeriana occidentalis* was probably distributed by me under

the names of *V. sylvatica* or *V. Sitchensis*, and some few perhaps as "*V. montana* n. sp.," for I had intended to adopt the latter name, not knowing at the time that it had already been used in this genus.

ERIOPHYLLUM PEDUNCULATUM.

Stems several, simple, erect from a slender perennial rootstalk, 3-5 cm. high, reddish below, sparingly floccose, leafy; leaves alternate or sub-opposite, oblong-lanceolate, narrowed at the sessile, somewhat clasping base, mature ones 5 cm. long, 1 cm. broad, entire, or undulate-denticulate, acute, the margins incurved on the lower side, which is covered with floccose tomentum, midvein prominent, yellowish, upper side less floccose and sometimes almost glabrous; upper part of stem naked, forming a peduncle 5-15 cm. long; heads nearly 1 cm. high, about 2 cm. across when expanded; involucre lanate, firm and coriaceous, the divisions eight in number, lanceolate, keeled, the short-acuminate tips recurved; ray flowers oblong, orange yellow, about 1 cm. long, 4 mm. wide, three-toothed; disk flowers colored as are the rays, glandular pubescent on the outside, the lobes very short, triangular-lanceolate; anther tips ovate, obtuse; akenes cuneate-linear, glabrous.

The type is our no. 3390, collected in a dry, open place in the woods on the left bank of the Sweetwater, almost opposite the head of Lake Waha, Nez Perces county, Idaho, altitude about 3000 feet. The specimens were obtained along the ditch which leads from the Sweetwater to the lake, and were growing on a steep slope, among grass and small bushes.

This species seems to belong to Gray's section *Trichophyllum* and is probably part of his composite *Eriophyllum caespitosum*, but certainly distinct from any of the forms described by him. It may be part of his *E. caespitosum* var. *leucophyllum*, but does not at all agree with *Bahia leucophylla* of DeCandolle. I have distributed it as "*Eriophyllum integrifolium*," a plant since raised to specific rank by Professor Greene, and as I now understand it, nothing like this species.

ERIGERON CONCINNUS (H. & A.) T. & G. Fl. N. A. 2: 174. 1841.

*Ditasis ? concinna* H. & A. Bot. Beechey, 350. 1840.

Our no. 3229, collected on gravelly hillsides along the Clearwater river, near Lewiston, Idaho, seems to me to be typical

*Erigeron concinnus*. It was first thought to be a new species, and was distributed without specific name. It is not at all like the specimen in the herbarium of Columbia University, which Dr. Torrey seemed to think was *E. concinnus*, neither is it the same as much of the material which passes for this species. A careful inspection of the original description by Hooker & Arnott, convinces me that our Idaho plant is the same as theirs, and in that case the bulk of the so-called *E. concinnus* belongs to some other species, or is still undescribed. The following is the original description of *Ditasís ? concinna* :

“Toto pilis albidis patentissimis canescenti-strigosa, radice perenni collo multicipiti, caulibus erectis gracilibus angulatis ramosis, foliis linearibus basi attenuatis radicalibus sublonge petiolatis, involucri foliolis subulatis albidis dorso viridibus, radii flosculis uniserialibus numerosis anguste linearibus disco duplo longioribus, pappo conformi biserali, serie ext. brevi paleaceo, int. 8-10 setoso.”

“Of the genus of this most beautiful plant, we are uncertain. The slender stems, scarcely a span high, the copious foliage, peduncles and involucre, are everywhere hoary with harsh white spreading hairs. The flowers are about the size of a daisy; the rays bright blue, in the dried plant, and the disk, yellow. The outer pappus consists of five or six lanceolate short palae; the hairs of the inner row are equal in thickness throughout.”

Our specimens are slightly over a “span” in height, as a rule, although not always so, and are covered with a profusion of beautiful, bright blue flowers. They also answer throughout to the above description. The original was collected on the “Snake River, below the Salmon Falls, Snake Country,” by Mr. Tolmie. The Salmon Falls are some 250 miles southeast of Lewiston, but apparently in the same basalt formation.

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